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ORIGINAL ARTICLES.

THE HORSE'S FOOT.

BY A. ZUNDEL.

(*Continued from page* 432.)

NAVICULAR DISEASE.

SYNONYMS.—*Chronische Hufgenklahme*, German; *Maladie Naviculaire*, French. This disease, called by Loisel and H. Bouley, *podosesamoideal synovitis* (synovite podosesamoidienne); by Brauell, *chronic* podotrochlitis, is an inflammation of the sesamoid sheath of the horse, that Turner and some other English veterinarians were the first to describe, and which is mostly observed in thoroughbreds.

The disease is principally seen in the fore feet, and more commonly in one foot alone; sometimes, however, both legs are affected, one first, and the other following. Navicular disease of the hind feet is seldom observed.

It is accompanied with lameness and deformity of the foot, and often proves rebellious to treatment. It is followed by contraction of the heels, (*encastelure*) which is itself often mistaken for navicular disease. At any rate, the affections are nearly related, whether the disease of the sesamoid sheath, first occurring,

is followed by the contraction, or that the hoof, originally contracted, gives rise to the subsequent alterations of structure which constitute naviculararthritis. At present we shall only consider the deep inflammation of the podosesamoideal articulation, occurring without primitive alteration in the form of the foot.

I.—*Symptoms.*—These are at first obscure. The lesion is deeply situated, and is, so to speak, concealed in the hoof, which itself, is generally at first of very limited extent. The first symptom which attracts attention is the lameness, which sometimes, indeed, seems to be merely a certain weakness of the affected leg. This lameness is at first intermittent and slight, but gradually increases. When in the stable, the animal "points," that is, the diseased foot is carried forward of a vertical line, and assumes a state of general relaxation of the muscles, with the coronet straightened and the foot mostly resting on the toe. This incomplete rest of the leg, which is sometimes kept in motion forward and backwards, becomes especially apparent if the animal is moved backward in his stall. He then sets down his foot with much hesitation, and for a short time; the same thing also occurs when, in order to relieve the opposite leg, the animal puts all his weight on the diseased one. Still, a close examination of the foot fails to reveal any marked lesion; no change of form appearing, no pain at the coronary band; merely a little heat toward the heels, or on the frog, where there can also be found a certain amount of low and deep sensibility, made apparent only by percussion of the hammer upon the foot, or by the pressure with the blacksmith's nippers, principally toward the heels and the frog. According to Lafosse, the frog is often found indurated, atrophied and thrushy. If exercised, the horse frequently stumbles, and sometimes falls on his knees; he fears the pain of resting the heels on the ground, and is limited in the movements of his knee and fetlock. If the heels are pared off, in such a manner that the frog is well prominent, and the horse becomes much heated, the lameness is increased, although at first it may have been very slight. Blacksmiths may frequently obtain the same result by placing under the foot a bar shoe, which, then resting on the frog, and not the heels, greatly aggravates the lameness until it becomes

excessive. This mode of diagnosis was originally indicated by Brauell: When, after more or less exercise, the animal is allowed to cool off, he at once points, straightens his fetlock, and slightly flexes the knee; the leg has a trembling motion, and no rest is taken upon the heels.

There are, however, according to Hertwig, cases where navicular disease suddenly reaches a period where, in the stable, the animal avoids all resting on the heel; points constantly, and hesitates to put his foot on the ground when made to walk. It always seems that there must be some traumatic lesion in the foot, as a punctured wound or a suppurating corn; and still there is no increased heat in the hoof, and no extraordinary pulsation of the arteries of the foot.

The disease has a tendency to increase, and the animal soon becomes very lame upon being put to work, especially on a hard road or rough ground. The heat of the foot is increased principally after work, though not in proportion to the lameness.. The sensibility of the foot is also more manifest under the exploring pressure of the nippers. In the stable the pointing is well marked and the trembling of the leg gives signs of deep and persistent pain. It is only after several months of this suffering that the foot begins gradually to show a change of shape. It then becomes visibly narrowed and elongated, in a manner which can readily be detected both by sight and measurement. There is a general atrophy of the hoof; the periople has disappeared, or scales off; the foot becomes covered with ridges, more or less marked, but better developed towards the heels; the frog has become sunken and atrophied; the sole is ecchymosed, presenting evidences of corns; and the leg is atrophied, especially about the muscles of the shoulder.

In cases where both fore-feet are affected, the animal points with either foot alternately, while seeking the desired relief for each, but the rest on either is very short. The hind legs are brought under the centre of gravity, the back is arched, and the decubitus prolonged. In stepping out of the stable, both fore feet are held stiffly, and kept close to the ground; the animal

stumbles on his fetlocks, and often falls, and one might suspect him of being weak. In walking, his shoulders seem to be rigidly attached to his body, but as he warms up the legs move more freely and his actions become less limited; but immediately on cooling off, and especially the day following one of hard work, all the symptoms reappear, with even aggravated intensity. The disease increases steadily with the lapse of time. When one, or what is more rarely the case, both hind feet are affected (Loiset has seen it occur), the animal is stiff behind; he is lame on one or both feet; he puts his foot on the toe only; knuckles at the fetlock; and presently an atrophy of the muscles of the superior regions takes place.

II.—*Progress, Duration, Termination.*—The disease generally maintains a steady progress; nevertheless it very often undergoes a remission, due to the hygienic conditions in which the animal is placed; to the seasons; to the state of the atmosphere, and to other causes. It may diminish in severity, and its symptoms disappear, while in its first period, if the animals are left at rest—without shoes if possible—loose in a box, with damp bedding, or in a marshy field; or in winter, during the rainy season, while the atmosphere continues in a moist condition for a long period. It is, under these circumstances, not uncommon to see feet which had become contracted quite recover their natural dimensions. Aside from these exceptional cases of recovery, the lesion keeps on slowly destroying the tissues where it exists; the lameness remains constant, or becomes intermittent for years, sometimes after the animals have become entirely unfit for work. There are frequent complications involving the surrounding parts; sometimes a true arthritis, and besides the complete atrophy of the muscles of the shoulder, the carpal ligament becomes thickened, the tendon of the perforans undergoes the same alteration, and ring-bones and side-bones may follow. Again, however, the animal may become knuckled to such a degree that he can scarcely rest his foot on the ground at all.

III.—*Pathological Anatomy.*—As we have said, the disease has its seat in the synovial capsule, formed by the small sesamoid

portion of this lobe, as well as the rest of the liver, had a healthy appearance. No biliary concretions were detected within this organ.

It is actually marvelous on the part of nature, when we realize how she endeavored to arrange an exit for the pus that was lodged within the liver, by forming an adventitious sac connecting the diseased portion of the liver with the abdominal walls, as well as to the intestines already mentioned. It is my opinion, from the relations the abscess bore to the skin on the one hand, and the intestinal walls on the other, that a spontaneous cure would have been effected by establishing an outlet for the pus, either externally or into the bowels, if the animal had not been so completely debilitated, which shortened her existence. If the location of the abscess had been indicated by a swelling externally, I should have been enabled to assist nature in accomplishing her efforts by the aid of a scalpel, and thus releasing the pus; but, as it was, no swelling of any kind was discernible anywhere, not even an œdema of the abdominal walls or extremities. Other symptoms, such as rigors, icterus, and lameness of the right shoulder, which we would expect to find, were absent, to my knowledge. As to the etiology of this rare case it is justifiable to presume that it had been occasioned by the absorption of material from the disintegrated cellular elements of the diseased glandular tissue that prevailed in abundance during this animal's severe throat affliction.

EXTRACTS FROM A DAILY JOURNAL.

HORSES TREATED BY THE ENGLISH MEDICINE.

By J. P. Klench, V.S.

(Continued from page 441.)

Class I.

No. 108—Stallion, eight years old, entered hospital April 8th, 1863. This horse was working at a station where he had to cross a creek about one hundred times every day for at least two months. Lately his appetite was failing; had a thick, bad gland

on left side; the nasal discharge was white, serous, of good nature, and rather abundant; but the Schneiderian membrane, of a metallic color, showed a great number of small red spots. The driver reported that the horse had been bleeding lately from the nostrils. I had the horse sent to the Central Hospital on the 8th, and gave him one arsenical powder a day from April 9th to 17th. Then, on examination, the nasal discharge was found more abundant, thick, greenish and sticky; greater on the left than on the right side. In the left nostril there are marks of three ulcers, very close to one another, in the septum medium, and two more under the nasal wing (*repli de l'aile du nez*); gland also large. The horse is glandered, and received the English Medicine on April 18th. I examined him again on April 27th, and found the nasal discharge very light; the gland about the same; the ulcers seem to remain stationary; the mucous membrane, not yet fallen off, is white, dead, and seems to be well adhering. May 1st, the gland is smaller; no more nasal discharge; the two ulcers, under the nasal wing, are well marked; the three others have united into one. Horse looks bright and eats well.

May 8th—All symptoms improved; very little is left of the gland; nothing more is to be seen of the chancres in the nose. Horse is sent to work outside. But returns on October 24th, with the above symptoms of suspicion. Issue very favorable again on November 2nd; no more nasal discharge; horse sent to work —and returns on January 25, 1864, with a third relapse, having a bad gland and a nasal discharge: horse suspicious. English Medicine, and afterwards tonic—arsenical powders. Issue uncertain on March 1. Remark—no discharge—gland still existing and horse works outside. I have not seen him since.

No. 91.—Horse, five years. Entered March 8, 1864. Bad nasal discharge, small gland, and one tubercle under nasal wing. Suspicious. English Medicine. Issue favorable. March 21st—Works, and returns April 27th for suspicion of glanders. Received the English Medicine and was in hospital yet when I left the company at the end of May.

No. 151—Stallion, seven years, entered March 26, 1863. Bad, double nasal discharge, heavy, brownish and very sticky; a

very bad cough; when coughing, he expectorated a mass that seemingly contained bloody epithelial debris from the lungs. Suspicious. English Medicine; issue pretty favorable April 5th. Works, and returns July 1st, having a thick and white discharge in left side. Tonic, arsenical powders, astringent injections. Issue favorable July 11th. Works outside, and returns April 25, 1864, for didymitc of right testicle; glandered. Mercurial ointment, suspensary, and oleum phosphoratum. Destroyed May 14, 1864. No remarks! ! !

No. 39—Horse, six years, having been operated for suppurative quittor, and later for corns and inflammation of sole. Showed on February 28th, 1864, a bad unilateral nasal discharge. Suspicious. English Medicine. Issue very favorable, March 17th. No relapse during my time of service, ending May.

No. 10—Horse, seven years, had distemper from August 10th to September 26, 1862, and entered on January 9, 1863, for glanders. English Medicine. Pommade of Bichromate of Potash on gland. Issue favorable on January 29, 1863. No relapse in the following sixteen months of my service. Very good success.

No. 84—Mare, 9 years, entered October 24, 1863, for suspicions of glanders and phlebitis. English Medicine; opening of abscess on neck. Issue favorable November 2d. Works and returns November 25th for adhesive phlebitis, and a bad, chronic, glandered cough; vesicatory on jugular vein, afterwards operation for phlebitis; pectoral powders, and then arsenical powders; issue uncertain February 20, 1864. Remark: cough still existing. Works and returns May 26, 1864, for periodical epistaxis. Two days later I left the company, and most likely this case turned out fatally.

No. 6—Horse, twelve years, treated for scouring, on March 26, 1863, and entered April 28, 1863, for collection in sinus; bad gland on left side, chancre and several miliary tubercles on left nostril, and a bad nasal discharge on same side. Glandered. Trephining of both maxillary sinuses on May 9th and May 12th; astringent injection; English Medicine; issue favorable August

1st. Works outside and returns November 15, 1863, for loss of appetite; a bad, staring coat. English Medicine; issue uncertain, December 29, 1863. Worked all the winter and had no relapse to the end of May, when I left.

No. 60—Mare, six years. After having been treated for sore withers, and later complete atrophy of the scapular muscles on both shoulders, showed, on April 24, 1863, a large gland, hard, indurated and adhering, and a generally good condition; a little suspicious. Pommade of bichromate of potash. The gland grows smaller; but on May 7th I discovered suddenly a dirty, brownish, glutinous, abundant discharge from left nostril; under the nasal wing three miliary tubercles and another one near the nasal septum, the latter one showing a beginning ulceration at its point; glandered. English Medicine given on May 9; mercurial ointment on gland. On May 12th, discharge less abundant, tubercles disappearing. May 20th, gland about the same, but tubercles nearly gone and no more nasal discharge. Mare sent to work, but returned on July 26th, discharging heavily from left nostril, and having a bad gland and an ulcer on same side. Tonic arsenical powders; trephining of superior maxillary sinus; astringent injections and oleum phosphoratum. All symptoms improving except gland, until September 22d, when I noticed on the right mamelle an indurated swelling, accompanied by a symptomatic œdema under the abdomen. Oleum phosphoratum; arsenical powders. Died October 29, 1863. Remark: Glanders on post mortem examination.

Class II.

Horses treated at first by English Medicine, and afterwards by the arsenico-strychnine powders.

Several of the cases mentioned in the First Class find application here; but to avoid repetition I merely recall to memory numbers 102, 151, 108, and 60.

No. 28—Horse, twelve years. Entered January 25, 1864, for suspicion of glanders; bad gland, and bad unilateral nasal discharge. English Medicine, and then arsenical powders; issue uncertain on March 1st. Remark: No more nasal discharge;

the gland is still there, and the horse is sent to work. No more relapse for the next two months of my service.

No. 50—Stallion, seven years old. Entered May 22, 1863, for glanders. A bad, abundant nasal discharge on left side, coat bad and general condition very poor; no gland, but Schneiderian membrane pale, showing black, dark-colored blood patches and a small ulcer in left nostril; bad cough, repeating, deep, sonorous, dry, and indicating a deep lesion of the lungs. Given immediately the English Medicine. June 5th—general condition about the same; but there is a slight swelling of right testicle, which is painful, while the testicle itself does not move on pressure; the testicular cord is also somewhat swollen; appetite poor.

June 8th—Patient is getting worse; nasal mucous membrane covered with blotches; nasal discharge very bad, unilateral and abundant; no chancre to be seen; all exterior signs and symptoms, very unfavorable; testicle and its cord a little larger and very painful; horse encounters the greatest difficulty in propelling the hind legs; general appearance very bad. Taking all these symptoms into consideration, I declare the horse incurable and advise to kill him. But the horse is young, and the Director wishes me to keep him at any cost, and try all I could, until he dies a natural death. So I gave him, besides the best and most substantial feed, oleum phosphoratum, fifty drops on June 11th, 12th, 13th; fifty-five drops on June 15th, 16th, 17th; sixty drops on June 18th, 19th, 20th, 21st; seventy drops on June 22d, 23d; eighty drops on June 24th, 25th, 26th, 27th; one hundred drops on June 28th, 29th, 30th. On this day I noticed a slight improvement in the condition of the horse; sarcocele has become stationary; coat a little better, and hair somewhat brighter; cough and nasal discharge, the same; blotches on schneiderian membrane less numerous; but the membrane under nasal wing is rough, red colored, injected and covered with miliary tubercles. A large, bad gland on left side. The phosphorus oil, so far used, had been old and weak; a new supply was obtained, and the horse was given sixty drops on June 1st, which quantity was gradually increased to seventy-five drops a day from June 1st to 15th.

On June 15th, the horse shows more vivacity, fire and energy; light movements; has gained in general appearance; gland smaller; but nasal discharge on left side, thick, white, greenish, very sticky, and forming brown crusts on outside borders of nostril; schneiderian membrane red, and has but a few blotches; under the nasal wing, the same rough tubercular surface; testicle in about the same condition; but movements of hind legs are easy and less painful.

From June 15th to July 15th, an arsenical powder was given every day with the customary days of rest; then resting one week, and recommencing again until August 27th. The patient has been improving for the last month, and this day he offers the following condition:

General external appearance very good, like that of any healthy horse; sarcocele has entirely disappeared; movements of hind legs free from all stiffness and pain; cough nearly gone; gland very small, but hard, adhering to the bone, and painful; nasal discharge, abundant, thick, unilateral, white-greenish, and sticky; nasal membrane very red; that under the nasal wing, very rough, full of miliary tubercles, and of dark, red color; collection in maxillary sinus.

As the horse is eating well, and has regained his strength, he is put to work on the hay-cutting machine. with two other glandered horses. The inferior maxillary sinus was trephined; bursal cavity had disappeared on account of the hypertrophy of its membrane; only a little matter was found. Astringent injections were made. A hard swelling is forming around the borders of the aperture of sinus, and appears to be inflammation of periosteum.

Here my notes unfortunately cease; but the record books show that on March, 1864, he was put out of treatment, and kept at work in the horse power with other glandered horses.

No. 34—Horse 5 years, entered November 29th, 1862, for suppurative quittor and disordered blood, characterized by fine ecchymoses in the Schneiderian membrane; operation and arsenical powder; issue favorable on December 20th; works but soon has to rest, on account of distemper; when on March 27th, 1863, he

becomes suspicious of glanders; general condition, poor; a double, abundant, brownish,very sticky nasal discharge; English medicine; issue very favorable. April 5th, works again, and re-enters June 11th for irregular teeth, loss of appetite, and poor condition; filing of teeth and tonic arsenical powders. Issue pretty favorable July 1st. Works outside, and returns July 24th in very poor condition, having a double, serous, nasal discharge, blotches on Schneiderian membrane, abcess on lips and hydropericarditis. English medicine, then arsenical powders, changed in time with tonic diuretics (ferrum sulphuricum); issue uncertain August 19th, 1863. Works, and returns September 19th, for general debility, loss of appetite and faltering walk; horse used up; arsenical powders; destroyed December 21st, 1863. Remarks: Glandered. On post mortem, right ventricle, flabby, dilated, enlarged; lungs, nothing; many small ulcers in head.

I must here make a remark that can be applied to most of the horses of this company. This horse No. 34 has been a victim to hard work. I remember well that he could have been kept alive but for the brutality of the superintendent, who wanted all convalescent horses to work before they were able to stand any fatigue. Thus the frequent relapses and gradual ruin were caused, until death relieved the poor victims; while otherwise they might have been finally cured by sufficient rest and a continued treatment.

Class III.

HORSES TREATED WITH ARSENICO-STRYCHNINE POWDERS ALONE.

No. 57.—Horse, 6 years, entered March 3d, 1863, for some suspicion of glanders; a hard adherent gland, and two farcy buttons. Bichromate of potash and arsenical powders. Issue favorable March 22d, 1863. No relapse for the next fourteen months.

No. 96—Horse 7 years; entered Sept. 17th, 1862, for farcy tumors under abdomen, and a hard adherent gland on left side; vesicatory, arsenical powders; issue favorable October 5th; works and returns Nov. 10th, 1863, for pneumonia with vomiques. Tonic antipseptics. Died November 24.

(*To be continued.*)

EDITORIAL.

VETERINARY COLLEGES MEDICAL SOCIETIES.

When we consider the progress that the Veterinary Profession has accomplished within the last twenty years in the United States, and glance at the causes of it, we are first brought to the fact that its importance in public estimation has been greatly due to the difficulties which have been encountered in the live stock trade, through the presence of contagious pleuro-pneumonia, of trichinæ, of hog cholera, etc.; and besides this, to the good work perseveringly carried on by the generous and deserving enterprizes embodied in the establishment of private veterinary schools. That to these, in great measure, is due the standing which veterinary medicine now maintains in this country, will be acknowledged by most or all, and that to this source also is due the professional acquirements and advanced qualifications now possessed by the young practitioners of our times. For the public all of those may be due to the lectures, to their attendance, to the general education that young men receive in their respective colleges. There is no doubt that didactic and clinical lectures do much for thorough education—that attendance in the dissecting-room, on the clinics, and on patients in the hospital wards, have much to do in that direction. But there is also another method of education which is perhaps ignored by some, or overlooked in its importance, and that is the benefit which is derived by the students from the College Medical Society.

In many medical schools this is a society composed of the students, in which advanced and senior students meet, read and discuss papers for their own improvement. There is no doubt that much benefit is derived in this way by those who attend. The papers which are read by the speaker of the day of meeting often show much ability, containing a large amount of careful thought, labor and research. We have at times published the essays thus coming from the pens of students at the American Veterinary College, and it is with pleasure that we print one to day from the Ontario Veterinary College. In these papers, and

formed his work, which was that of carting, in a satisfactory manner. He had never manifested symptoms of general disease, and had always fed well and kept in good condition.

Five months previous to his being sent here, the owner noticed the appearance of several little nodules, about the size of a pea, on the left side of the neck. These ulcerated and ran together, forming a raw granulating surface. In a short time other nodules developed on various parts of the integument covering the head, neck and face, all of which passed into a state of chronic ulceration.

At the time of examination, a large ulcerating surface was observed on the right side of the face, extending from the intermaxillary space to the upper border of the nostril, and from the commissure of the mouth to about three inches below the orbit. The ulcer was covered with greyish, hard, adherent scabs, which, when removed, revealed an uneven surface, covered with rugged depressions. The alæ of the nostril had been destroyed, and the diseased process extended in as far as the lachrymal opening. The mucous and submucous tissues had been involved, and the sore here presented ragged, everted edges of a violet or purple hue.

Eroded surfaces similar to this, but smaller in size, were found between the ears and on the left side of the face and neck.

On the left side of the neck was a patch of skin, devoid of hair, somewhat depressed in the center, with the surrounding integument drawn up, so that the whole presented the appearance of a cicatrix resulting from a burn. The surface contained several little tubercles, covered with a branny epidermic desquamation, firm and painful to the touch. According to the owner, tubercles similar to these had invariably preceded the ulcerative process in other parts of the head and neck.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held at the American Veterinary College on the evening of January 9th, 1883, at 8 o'clock, with the President in the chair.

After the calling of the roll and the reading of the minutes of the previous meeting, Dr. Fred. Saunders read a paper on "Exostosis of the Hock," in which he discussed the Etiology, Pathology, Semiology and treatment. He cited cases in which spavin was evidently congenital, being manifested before the colts had attained the age of five years, and referred to the immunity from this disease that exists in horses with large development of the bones of the hock. He described the causes, effects, and termination of spavin, to some extent, and then discussed the symptoms and diagnosis. Rest, he considered the most important factor in the treatment, but considered one or more applications of blisters as beneficial in cases of short duration. The actual cautery he believed in using only as a last resort or in aggravated cases. As to the operation of tarsal tenotomy, he said: "I cannot very well understand, how it will benefit a horse if the spavin is complicated with inflammation of the articulation. This operation is indicated only in mechanical lameness."

In the course of the discussion that ensued, Dr. C. C. Cattanach reported a case in which a horse that was very lame from a spavin received immediate relief from the operation of tarsal tenotomy. Dr. Crane considered this operation indicated only in cases of low spavin. He doubted if rest alone would result in more than temporary benefit, and recommended the application of the actual cautery in all cases of hock joint lameness at the start.

Dr. Field endorsed this view, stating that the only success he had ever had in the treatment of spavin was by the use of the firing iron.

Dr. Coates said, "Cold applications are indicated, in cases of periostitis, before blistering, and this treatment is at times sufficient. Tarsal tenotomy is useful in cases of extensive exostosis around the internal tendon of the flexor metatarsi muscle."

Dr. Michener recalled cases of spavin of some years standing with bone enlargements, in which blistering relieved the lameness, but the tumors remained.

Dr. Foote recommended placing horses at pasture during treatment for this disease, estimating rest in this manner as more valuable than rest in the stable.

Dr. Liautard closed the discussion with the following remarks: "As to the particular rest the horse is to have, I have had cases in which the ordinary treatment has been resorted to, and the animals placed in box stalls or in barn yards and the recovery has been imperfect, or not permanent, while similar cases that received their rest at pasture were permanently relieved or cured. At pasture we are placing the animal under circumstances favorable to complete anchylosis of the hock resulting, or to the formation of a false joint. With this treatment the horse is not so liable to do further injury as though placed in a box stall, or receiving exercise in the halter. The actual cautery, I am tempted to say, use from the start. I don't think that the complications of this operation amount to anything. We must consider the horse as a machine, so the blemishes resulting are of slight consequence. I don't mean to say that I would fire every case of hock lameness, but if I thought there was danger of exostosis, of if that already existed I should advise firing. Tarsal tenotomy is well enough where we find we diagnose an exostosis without joint lameness, but it must not be depended upon for every case of hock lameness."

A vote of thanks was tendered the essayist, after which the society went into executive session.

The name of Dr. D. J. Dixon was presented for membership and referred to the Committee on Nominations.

Dr. Foote was appointed essayist for the next meeting, to be held at the American Veterinary College on Tuesday evening, February 13th at 8 o'clock.

The meeting then adjourned.

H. T. Foote, M.D., V.S.,
Secretary.

Steamship Ventilation.—The steamer Victoria, which sailed for Liverpool from Boston on January 11th, landed 1,580 sheep and 378 oxen. This is the sixth trip she has made with the new system of ventilation by extra panels and air shafts in the funnel casing. During this time she has carried 7,846 sheep and 3,211 head of cattle, and has only lost nine cattle on the passage.—*American Cultivator.*

REVIEW.

ANATOMICAL TECHNOLOGY AS APPLIED TO THE DOMESTIC CAT.

An Introduction to Human, Veterinary and Comparative Anatomy; by BURT G. WILDER, B.S., M.D., Professor of Physiology, Comparative Anatomy and Zoölogy in Cornell University, and of Physiology in the Medical School of Maine, Member of the American Neurological Association, Fellow of the American Association for the Advancement of Science, etc.; and SIMON H. GAGE, B.S., Assistant Professor of Physiology and Lecturer on Microscopical Technology in Cornell University, Fellow of the American Association for the Advancement of Science, etc. New York and Chicago: A. S. BARNES & Co., 1882.

This work must fill an important place in anatomical literature. It has grown, as the authors tell us in the preface, out of the ascertained needs of students preparing for practical work in Human, Veterinary or Comparative Anatomy, and its methods have stood the practical test of years in the anatomical laboratory of Cornell University. It has the great advantage, for the beginner, of assuming no previous knowledge of the science, but, giving full instructions as to the instruments and methods, it furnishes the student with the means of pursuing his studies in private, and upon a subject which is at once cheaply and universally obtainable—the domestic cat. The work does not aim at giving a complete descriptive anatomy of the cat; in place of this, it instructs in the best method of dissection and study for each organ or region, and in a sufficient number of examples goes into detail, so that the student feels that he is well panoplied for the further intelligent dissection of the same animal or of any other. And the special advantage is, that it aims to introduce a knowledge of the more complex structures, by first laying a foundation in the more typical or simple. Thus in the case of the brain, which medical students usually begin to study on the human subject, cutting the organ in slices from above downward, and learning with the greatest effort and disgust a series of barbarous names for objects appearing in succession and bearing certain relations to each other, our authors adopt the more rational plan of presenting first the simple amphibian brain, where there but a few of the more important and constant cerebral ganglia clustered round the cephalic

end of the spinal cord; and upon this, as a basis, they naturally build the additional ganglia, in a way the student can more easily and intelligently grasp.

The great attention bestowed upon the viscera generally, alike as regards their structure and their relative position, is an important feature of the book; and the way in which this is illustrated by sections from frozen bodies, and the instructions given for making the same, help to familiarize the student with a subject which is too often pursued in a superficial and perfunctory manner.

A special feature of the book is the attempt to introduce an improved nomenclature.

Those of us who have taught comparative anatomy have long felt the need of a new departure in this field. Our current nomenclature has been based largely on anthropotomy. Objects which have a given form in man retain in animals names indicating that form, though these designations become quite meaningless, or worse, misleading. Thus, in the horse, the *pisiform* bone is a *disc curved* upon itself, the *cuboid* is a *parallelopiped*, while the tarsal *scaphoid* and *large cunieform* are both *discoid*. The *supra spinatus* and *infra spinatus* muscles become in the quadruped the *antea* and *postea spinatus*, the *pectoralis magnus* becomes the *pectoralis parvus;* and in the matter of size, the same applies to the *gluteal* muscles. Objects which in the erect form of man are respectively *posterior* and *anterior*, are in the horizontal quadruped *superior* and *inferior;* while those that are *superior* and *inferior* in man are anterior and posterior in the quadruped. The common use of *superior* and *inferior*, sometimes referring to the relation to the centre of the body, and sometimes in their general relation to the earth and surrounding objects, is often very misleading. Those of us who have fought the battle with all the meaningless, misleading, bizarre and conflicting names of modern comparative anatomy, and to whom they have become familiar and easy, do not take kindly to any proposal to acquire a new method differing in many respects from all. But if we are engaged in teaching, we recognize at once the advantage to the student, and indirectly to the teacher, of any system which will approximate our present varied nomenclature to one systematic and intelligent

plan, that could be used in common by the anthropotomist, the veterinary anatomist and the comparative anatomist, and by those of all nations. No perfect system of this kind is to be expected; nevertheless such an approximation to this may be secured as will greatly facilitate teaching and study by making every statement clear, definite and easily apprehended, and at the same time devoid of implications which will be misleading when we come to study the same parts in different animals.

Without presuming to endorse all that the authors have proposed in this direction, we hail much of it as a most important advance on old methods, and trust that the good work in this direction will not cease until something like a rational nomenclature shall have been adopted. The following may be particularly noted as illustrating the direction the authors have taken: Instead of the *superior* and *inferior* of man and the corresponding *anterior* and *posterior* of animals, they adopt the words *cephalic* and *caudal* in describing the positions, parts and aspects of organs. These have precisely the same significance to man and animal and are equally intelligible to the scientists and students of all tongues. The objection that the same words are used in a specific sense for the structures of the head and tail respectively could be easily obviated, we would suggest, by using other distinctive terms for these, e. g. use the term coccygeal for the structures proper of the tail. Regarding relations in another direction, the terms *dorsal* and *ventral* at once do away with the antiquity attaching to *superior* and *inferior*, etc. All ambiguity may be avoided, as the authors point out, by adopting for the term *dorsal* that of *thoracic* in describing the vertebræ of the back. Then as regards a position, central or lateral as regards the body, the term *meson* is proposed for the central line, while *mesal* will imply a position towards the median line, and the generic *lateral*, and the more specific *dextral* and *sinistral* imply position to one side of the median line.

Again, to imply position or relation superficial or deep we find the words *ectal* and *eutal* which give give a definite idea not to be obtained from *inner* and *outer* now in common use. In each case the adverbial form secured by changing the terminal l into d implies a direction as specific.

But we cannot pursue this subject further. The movement is one in the right direction and if fostered and corrected and improved as further experience shall dictate, will do much to facilitate anatomical study.

The authors have been no less careful with the illustrations, than with their descriptions and instructions. Many of these are diagramatic and typical, but when they are given as illustrative of the actual structure, their conscientious accuracy is especially to be commended. A very striking example of this is furnished in the section of the cat's eye on page 524. Comparing this with the section of the cat's eye as furnished by Mivart, one is at once struck by the dissimilarity. That given by Mivart represents the segments of two spheres, the larger represented by the sclerotic and the smaller by the cornea, as in the human eye. Wilder and Gage on the other hand show the cat's eye as a cone, with its base posteriorly and its rounded apex turned forward and represented by the cornea. Similarly, Mivart gives the lens with the posterior surface the most convex, like that of man, while Wilder and Gage show the anterior surface the most convex, as it really is in the cat. Even to the remarkable thickening of the sclerotic at its anterior border, the point of muscular attachment, and its attenuation behind—the peculiarity of the cat's eye is marked out with a most faithful hand.

Not the least valuable feature of this book is the bibliography, which covers over fifteen pages, and furnishes the student with a most extensive index to the literature of the subject.

J. L.

CORRESPONDENCE.

TUBERCULOSIS IN COWS.

NEWTON, January 10, 1883.

Dr. Liautard :—

DEAR SIR.—I have sent you to-day, by express, a box of pathological specimens, which I hope may be of interest to you and the gentlemen of the faculty, and instructive to the members of

the class. I wish to apologize for not sending better prepared specimens, but the post mortem was made between half past four and five in the afternoon, and in an open field, with the thermometer on the road to zero, and with every prospect of soon getting there; consequently the knife and axe flew.

These specimens were from a Guernsey cow of imported stock, and I will endeavor to give you as full a history of her case as possible, because she showed so many of the characteristic symptoms of the disease, which you will find so well marked in the specimen.

This cow came from Philadelphia, where she was purchased at an auction sale some two years ago, with several others (four, I believe). She was placed on the farm, and has had the same care that the rest of the cattle have had, until within the last two months. A few months after being brought here she aborted. When the first period of œstrum came round after the abortion, she was not sent to the bull; when the second period came on she was served by an Ayrshire bull that got loose in the barn and found her out. Since this time of service she has neither been in heat, nor had a calf, nor has she aborted again, so far as I can find out; and these cattle are constantly under careful supervision. I saw her first November 8th, 1882, at which time the owner asked me to see if I could discover any reason why she should not become pregnant, and gave me the preceding history. I made an examination, and could find nothing in the way of growth or malformation, to account for the trouble. I suggested a change of bull, and as the cow was in good condition, no medicine.

At the same visit I examined three other Guernseys which had just come from Philadelphia, where they had been kept since their importation in the spring. One of these had a slight cough, but as there were no other signs of disease, I laid it to a change of location and lack of acclimatization of these animals. You may hear further at another time. In fact, I was called to see the one with the cough, December 20th, and the subject of this letter was incidentally shown to me as being lame. When the owner first showed me the cow, he told me that of the cows that came with this one, all had died with tuberculosis. Hence, I was at once

warned what to suspect, and then, when speaking of the case to Dr. Thayer, he said that they had tuberculosis, for he saw them. December 20th, when I went to see the cattle, Dr. Winchester went with me to see the cases. We found cow No. 1 with a temperature of 103°, dullness on percussion on the lower third of the right lung, loss of respiratory murmur, dropping of the left ear, intermittent lameness, sometimes in one extremity and then in another, but generally in both hind legs. When in a box stall, she would travel in a circle for many minutes, and almost always with the right side toward the centre, and when walked in a straight line would go sidling along.

We made a diagnosis of tuberculosis, ordered the animal to be isolated, and proposed to the owner that she be destroyed.

To this he would not consent, but desired me to keep her along and let her die; she has, however, grown worse since December 20th, and I saw her losing flesh; appetite capricious; loss of strength, and increase of circular motion, so that she would go round and round and then fall exhausted.

Last Monday the owner gave me permission to destroy her, and taking Dr. Howard with me, I went to the farm.

On opening the right side of the chest, we found the lower half of the lung a mass of tubercular deposit, and adherent by a portion of its surface to the second, third and fourth ribs, which portion I cut out, and reserved for you. The left lung was slightly affected. The liver, a portion of which you have, was studded with tubercles. I could find no tubercle in the mesentery. The ovaries were diseased. The one I cut was filled with fluid, and as you will see the other is similarly affected. Night coming on made our labors more like butchering than a careful post mortem.

The cow No. 2 is wasting away, and I expect permission will be given to kill her in a few days. If so, I will try and get some more specimens.

Yours,

BUNKER.

[It is to be regretted that in the presence of such extensive tuberculization, and with the symptoms given, a careful examination of the brain and its envelope was not made.—ED.]

ANTIPYRETIC EFFECT OF QUININE—ITS USE IN PNEUMONIA.

DANVILLE, KY., January 9, 1883.

Editor Review:

In this season of cold rains and sudden changes, we expect to have many cases of pneumonia to treat, and in looking over my case book I find the record of a case that may prove interesting to your readers. April 28, 1882, I was called to see a valuable combined bay gelding, 16 hands high, 5 years old.

The horse had been kept in a most excellent stable, and was fed and groomed for the market. I found him standing in his stall, head down, nose protruding, respiration labored, and a deep, paroxysmal cough. Auscultation gave distinct crepitant rales of pneumonia on both sides. The respiration was 46 per minute; pulse, 97: and temperature per rectum, 108⅗° F. I was surprised at the high temperature, and took it four or five times in the course of 30 minutes, to be sure I had made no mistake. The extremities were warm, but movements stiff. Prescribed: Sulph. Quinia gr. xl., Dover's powder, ʒj—m.—one every two hours. Also, Tr. Aconite Rad m. xx., every two hours, the two alternating. Applied hot fomentations to the sides by cloths wrung from hot water. The fomentations were kept up through the night.

April 29. The patient about same, but a more haggard look. Respiration 36, and labored, but the cough less frequent; pulse, 90; temperature, 108°; about the same that it had been for 36 hours. Gave a dose of Sulph. Quinia, gr. lx, Dovers' powder ʒj, with hypodermic injection of morphia sulphate gr. ij. In one half hour the temperature fell one-fifth degree. In one hour more gave Quinia Sulph. gr. xl, making 100 grains given in 1½ hours. The body was kept packed in hot blankets. The temperature steadily decreased, and at the end of 1½ hours had fallen 1°.

The succeeding treatment consisted of Quinine and Dovers' powder in 40 gr. doses, with 1 ounce nitrate potassa, dissolved in water—every 24 hours. The bowels were kept open by repeated enemas, and loosened by green grass and mashes, as appetite returned. By the 8th of May the horse was convalescent.

The point of interest to me in this case was the extremely high

temperature, lasting for so long a time, and the demonstration of the sustaining and antipyretic action in the horse, of large doses of Quinia Sulph. GEO. C. FAVILLE, D. V. M.

NEWS AND SUNDRIES.

Cerebro-spinal, and spinal meningitis prevails to some extent in the vicinity of Goat Farm.

A GOAT FARM has recently been established in England for the purpose of supplying goats' milk to London infants and invalids. —*Medical Record.*

IMPORTANCE OF QUARANTINE REGULATIONS.—In South Africa the raising of cattle has almost entirely ceased, owing to the fact that several years ago a Holland bull was carried there afflicted with the lung disease, which, before it could be stopped, spread beyond control. This should prove a warning to American farmers. Congress should make a law forbidding the removal of cattle from any infected territory until they have undergone a period of quarantine.—*American Cultivator.*

SUBSIDY TO PASTEUR.—The French Minister of Agriculture has lately placed at the disposal of M. Pasteur a new sum of 50,000 fr. ($10,000) in order to continue his valuable investigations of the contagious diseases of animals. The government had already granted to the illustrious savant, for the same object, 50,000 fr. in 1880 and 40,000 in 1881. The minister consulted a special committee, who, in view of the brilliant success obtained by Pasteur in his previous investigations, unanimously recommended a renewal of the grant.—*Independent Practitioner.*

ONE MORE BACILLUS.—At the instigation of Drs. Loeffler and Schiitz, of the Berlin Imperial Sanitary Bureau, the etiology of farcy has been carefully investigated. As was anticipated, the specific micro-organism of this disease was soon discovered. Numerous "culture" experiments have already been made, and horses have been successfully inoculated with the isolated germs. One

by one the contagious diseases are wheeling into line. The time seems not far distant when they will have been all safely captured by the bold and ever active bacteriologists.—*Medical Record.*

NAPHTHOL IN SKIN DISEASES.—Kaposi states that care should be observed in the use of naphthol in skin diseases to avoid surfaces denuded of epithelium, and never to apply it to the entire body. When these precautions are observed, the remedy is wholly without danger, and is of great value in many affections. In eczema it is indicated only in the squamous stage, when the diseased parts are but slightly hyperæmic or even pale. In scabies, one application of naphthol, combined with chalk, green soap, and lard, is usually sufficient for a cure. In the various forms of acne, good results follow the employment of naphthol. The remedy is of especial value in the parasitic affections of the skin, as herpes tonsurans and favus. Pediculi are quickly exterminated by a ten per cent. solution of naphthol in olive oil.—*Prager Med. Wochenschr.*, No. 33, 1882.

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Revue fur Thierheilkunde und Thierzucht, Oesterreichilche Monatschrife fur Thierheilkunde, Archiv fur Wissenchaftliche und Practische Thierheilkunde, Repertorium der Thierheilkunde, Schweizerisches Archive fur Thierheilkunde, Clinica Veterinaria, Veterinarian, Veterinary Journal, Gazette Medicale, Archives Veterinaires, Recueil de Medecine Veterinaire, Journal de Zoötechnie, Annales de Bruxelles, Revue d'Hygiene,

HOME.—American Farmer, Spirit of the Times, Turf, Field and Farm, Medical Record, American Agriculturist, Country Gentlemen, Rural New Yorker, Breeders' Gazette, National Live Stock Journal.

NEWSPAPERS.—Farm, Home & School, Farmers' Review, Home Farm, Weston's Medical Report.

COMMUNICATIONS—G. Faville, M. Bunker, Prof. James Law, Prof. A. Smith, J. C. Meyer, Jr., R. S. Huidekoper, M.D., J. S. Kemp.

PAPERS.—W. B. Miller, Toronto College Medical Veterinary Society, Report of Treasury Cattle Commission, F. Saunders.

especially in the one last-mentioned, the author shows his desire of working in the ranks of the profession, and exhibits evidences of a laudable and ambitious desire to elevate the science, by thus throwing in his contribution towards advanced progress. It would well become all veterinary students to follow in the line of those who have done so well, for in so doing the benefits would be for themselves, for their colleagues in study, for their alma mater, and above all, for the profession of their choice.

SANITARY VETERINARY BOARDS—VETERINARY HEALTH BOARDS.

In a recently published medical paper, complaint was made that a Veterinary Board should be supported by Congress, while the National Board of Health was allowed to famish. In our last issue we made some remarks on this subject, and we publish to-day the report of the Treasury Cattle Commission. The report will speak for itself, and shows that what has been done has been done well, and that the Commissioners deserved credit for their labors.

We do not wish to have it understood, however, that we consider the Veterinary Board superior or more useful than the National Board. Far be such an idea from our mind. But what we think ought to exist, what we believe Congress on one side, and State Legislatures on the other, ought to enforce, is the *connective and collective work of the Medical Sanitarians with the Veterinarians.* In other words, we believe that if the people of our country could be made to ask their legislators that the two interests should be combined, so far as the general public health is concerned, much benefit would result. The National Board of Health has been, we believe, a separate and distinct Board, working by itself separately from the Boards of Health of other States and cities. This, we think, is an error; such, in fact, as may be charged upon many other organizations with similar objects, which do their good for a certain time and then die out to be forgotten, as to any of the fruits of their existence, proving thus the folly of their modes of labor.

A National Board of Health is as indispensable in this coun-

try as similar organizations are in Europe—and as in Europe, one of its principal and essential departments will be a Veterinary Sanitary Department. We feel satisfied that the greatest and possibly the only error which can be alleged against the National Board of Health, is that it ignored, to a great extent, the usefulness of veterinary science.

And if this was the case with this institution, what can be said of our State or City Boards of Health? Are they less guilty? Do they appoint veterinarians on their staffs? Do we see, as we do in Europe, veterinary surgeons occupying the ranks they are entitled to among the membership of the public sanitary bodies? Have they any regulations of any value which define their duties or their rights in cases of contagious diseases of animals? Do we see them occupying any of the positions of meat, market and slaughter-house inspectors, to which they are entitled by their education and their professional knowledge? No; with very few exceptions, veterinarians seem to be entirely ignored as to their usefulness as guardians of the public health; and as long as this shall be so, no City, State or National Board of Health can fully claim to be beyond reproach, no matter how well their labors may been carried out.

CORRECTION.

The following letter makes a correction in an article in our last issue. The case had escaped our attention, probably as not being altogether of the same nature.

Prof. Liautard:

DEAR SIR:—In the last issue of the REVIEW, in reporting a "Rare Dermatoid in the Horse," you say the only case we can find on record, at all similar to this case, can be found in the *Veterinarian*, etc. Please refer to Vol. V., No. 11 (February, 1882), of the AMERICAN VETERINARY REVIEW, page 496, correcting a typographical error on page 497, and you have your attention directed to a *derm cyst*. Am I right? Fraternally, etc.,

GEORGE C. FAVILLE.

NOTICE TO OUR SUBSCRIBERS.

With the next number of the REVIEW, the sixth volume will be completed. We have mailed to a few of our readers whose subscriptions remain unpaid, a statement which we hope they will honor, as unless the amount is settled, we shall be obliged to stop sending the REVIEW, and to consider the silence of our friends as a notice to close their subscriptions. We have received information that there are numerous duplicate numbers in the possession of several of our friends. If they will mail them to us, at our expense, we will print in our next issue a list of the numbers received, and shall then be able to supply many incomplete files. We have now on hand a few numbers of Volumes III. and IV., which may be had for $2.00 a volume.

CLINICAL CHRONICLES.

BY A. LIAUTARD.

It is generally admitted by helminthologists that cattle are subject only to two special kinds of tapeworms, the *tenia expansa* and the *tenia denticulata*. The report which we present to-day, from the observation of Mr. Peters, student in the A. V. C., seems to show, however, that these animals are not altogether free from other forms of these parasites, the examination made of those found on the *post mortem* examination of the cow which was destroyed, as suspected of being affected with tuberculosis, showing that the animal had suffered from *tenia mediocanellata*—a tapeworm, which, found commonly in other animals and in man is, however, found to infest cattle when in its immature form, and giving rise then to that peculiar affection known as measles. In these cases the external muscular tissues of the shoulder and haunch, and the diaphragm, and, according to Cobbold, the loose cellular and fatty tissues, and even the heart, are found filled with the cysticerci. The suggestion made by Dr. Birdsall, who kindly examined the specimen of the tapeworms, as

to the manner in which this tenia mediocanellata develops itself, is worthy of notice and deserves the inquiry of practitioners who might observe similar cases.

TENIA MEDIOCANELLATA IN A COW.

By A. Peters, *Student.*

In July last this cow, a three-year-old Jersey, owned by E. H. Austin of Gaylordsville, Conn., was noticed to be unwell. This was not unexpected, as her grandmother had died five or six years before, and her mother two years before, with very nearly the same symptoms. An aunt of this cow, by a native bull, had also died with similar symptoms.

Symptoms.—Emaciation and weakness; shrinking of and a final cessation of the milk secretion; swelling in the sub-maxillary region, which would vary in size, being larger at some times than at others. Later on in the disease, there was a persistent diarrhœa, the fœces being very liquid, and not yielding to simple treatment, such as dry food, gruels, etc.

Post mortem examinations were made on the grandmother and mother by a butcher, who said he failed to discover any abnormal condition of the lungs or intestines. Still, from the history of the case and the symptoms, a probable diagnosis of tuberculosis was made. On the 7th of November, 1882, the cow was destroyed, and a post mortem examination made. No tubercular deposits could be found, either in the lungs, which were perfectly healthy, or in the intestines or mesentery. The submaxillary lymphatics were somewhat enlarged and hardened, but in other respects were normal. The whole intestinal tract was, however, very much inflamed and congested, particularly the small intestines. There was a large secretion of a muco-purulent matter in both the large and small intestines, and the small intestines were very much softened, tearing very easily; the mucous membrane could easily be scraped off with the thumb nail. In the small intestines were two large tapeworms, each about six feet in length. They were more like those found in the human family than any that have ever been described as infesting bovines.

The presence of these tapeworms readily accounts for the emaciation, diarrhœa and intestinal irritation; but it seems impossible to account for the apparent heredity of these symptoms. The other cows of the herd have always been perfectly healthy in every respect. The great grandmother of this cow is living on a farm near Hartford, and her owner says she is as well as any cow of six years—she is eighteen years old.

Prof. Liautard:

Dear Sir.—The specimen which you left for examination—a tænia from a cow—is undoubtedly a Tænia Mediocanellata, a beef tapeworm. I found but one head, and think all the segments in the bottle belong to one strobila. My reasons for concluding that this is a Tænia Mediocanellata are based on, 1st, The head, which is truncated, has four large disks, is hookless, and has no proboscis. 2d. The segments show quite a number of monstrosities, or imperfectly shaped proglothides, more frequent in this form of tænia than any other. The general shape of the segment and the arrangement of uterine branches are also confirmatory. I have mounted the head, which I will send or bring you soon, and enclose a rough sketch of the head and abnormal proglothides.

Can it be determined whether the cow could have obtained fresh meat, in any way, by accident or from a slaughter-house? I do not know whether the embryo and placenta are ever infested with the beef measle or immature form of Tænia Mediocanellata. I see no reason why they might not be. As cows have the habit of devouring the placenta and membranes, might not this be a plausible method of infecting the same animal with the mature form? It would be a rare method, as it requires an unusual coincidence between development of measles and delivery.

The idea has occurred to me, and I throw it out as a suggestion. Sincerely yours,

W. R. Birdsall.

The benefit that the surgeon obtains by the use of anæsthesia is undoubtedly of greater importance in human than in veterinary medicine. With the former, besides the relief from pain, there

is that of nervous shock or moral influence, which plays so important a part in the recovery of the patient. With the veterinarian this last condition scarcely exists, if it does, and probably for this reason anæsthesia is not so commonly used. Probably, also, as the injuries that may accompany the operation of casting, such as broken back, being likely to take place while the anæsthetic is given, during the struggles of the first effects of the medical vapors, veterinarians hesitate also to have recourse to their benefits. There are, however, peculiar conditions where it becomes a necessity, and in which neglect of employing it might give rise to severe complications. Amongst those are the operations which, at times, rare as they may be, are performed upon the eyes, or in cases of hernia. But if the ordinary sequelæ of casting are also likely to be met when the anæsthetic is given, there are other complications which the veterinarian may meet, and against which, often, he has but little control, no matter how careful he may have been. Amongst these is the condition of syncope, which may suddenly take place, especially if the patient is suffering with some diseased condition of the heart, which has possibly escaped notice, or which, on account of some peculiar condition, could not be detected. Hypertrophy of the heart with fatty degeneration of its muscular structure is probably the most common condition in which the closest examination remains useless and fails to reveal the true state of affairs. The truth of the possibility of such condition, and of its fatal result, is illustrated in the report which we publish to-day from the pen of house surgeon Dr. Kemp, in which an animal lost his life from syncope during the administration of a small quantity of ether, due to a fatty degeneration of the heart, with hypertrophy of the whole organ, a diseased state which was not suspected, though careful examination of the condition of the circulatory apparatus had been made in this rather vicious animal.

FILARIA OCULI—FATTY HEART—SYNCOPE AND DEATH DURING ADMINISTRATION OF ETHER.

By J. S. Kemp, D.V.S., *House Surgeon.*

On November 21st, a bay gelding, eight years of age, sixteen hands high, was brought to the clinic, exhibiting in the anterior

aqueous chamber of the eye a threadlike parasite. Several weeks previous, the owners of the animal had noticed a whitish appearance of the cornea, and closer inspection revealed the presence of a delicate worm, about four inches in length, and scarcely the thickness of a thread, swimming about in the aqueous humor, moving incessantly. At the time of examination, considerable keratitis existed with marked opacity of the cornea.

As the presence of the filaria did not interfere with the general health of the animal, or with the performance of his work, the owners naturally hesitated about the performance of an operation for its removal, which, as the horse was of a vicious disposition, and particularly rebellious to any manipulation in the vicinity of the affected eye, would necessitate his being cast and anæsthetized. However, he was again sent to the hospital on the 5th of January, with directions that the necessary steps for the removal of the parasite should be taken.

At four o'clock on the 9th, after the usual preparatory measures had been taken, the horse was cast and anaesthetic ether administered by inhalation. The stage of preliminary excitement, which lasted about five minutes and during which time the animal had received about two ounces of ether, had scarcely terminated and the operator was about to proceed, when the pulse, which had hitherto been strong and regular, became suddenly imperceptible; two deep and rapid inspirations were taken, followed by a general convulsive movement, then respiration ceased. The ether was removed on the first appearance of the alarming symptoms. Artificial respiration was immediately resorted to, and kept up for an hour, during which time intravenous injections of ammonia were given with inhalations of the nitrite of amyl. Blood was copiously extracted through the jugular vein, but animation could not be restored.

In the meantime an incision was made in the cornea near its junction with the sclerotic, with a Beer's knife, which was then given a gentle rotatory movement, thus allowing the aqueous humor to escape. The parasite refused to flow out with the liquid and was drawn forth by a pair of forceps, which were introduced into the anterior chamber through the incision.

On the following morning a post mortem examination of the thoracic organs of the horse was made. The heart, when removed, weighed eleven pounds. The right ventricle was much dilated, and contained a little fluid blood. The wall of the right ventricle was soft and flabby, and in contact with the median septum. It measured a little over one centimeter in thickness near the base, and two centimeters near the apex of the cavity. The left ventricle was empty and its external walls measured four centimeters. The inter-ventricular septum measured three and one-half centimeters. The auricles were empty. The muscular structure of the left ventricle and of the median septum was yellowish in color, soft and readily broken down.

A microscopic examination was made by Dr. G. L. Peabody of the New York Hospital, to whose kindness we are indebted for the following interesting description: The muscle-fibre cells from the left ventricle were so granular, by the reason of the presence of fat, that the normal transverse striation could with difficulty be made out in some places. In most places the striæ were completely undistinguishable. There was also an abnormal amount of fat between the bundles of fibres in the connective tissue. The muscular structure of the right ventricle and of the interventricular septum were less disintegrated. Very generally the transverse striæ could be seen. Still, even in these places, every now and then could be seen a muscular fibre-cell, which appeared like a tube filled with granules of fat.

This extensive diseased group had escaped all investigation, as by the condition of the pulse which, though weak, was regular, an examination of the heart was not made, and even if it had, would probably have proved useless on account of the nature of the disease as well as the vicious character of the animal.

REPORT OF CASE.

A CASE OF LUPUS EXEDENS.

By J. S. Kemp, Jr., D.V.S., House Surgeon.

The subject was a brown gelding, nine years of age and weighing about 1,200 pounds. He had been in the possession of his present owner for two years, during which time he had per